

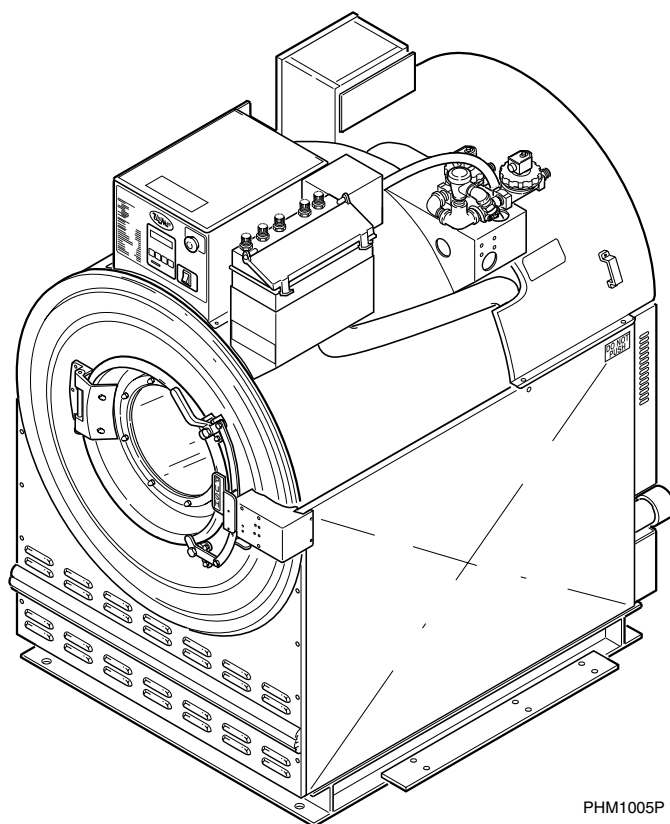
# Washer-Extractors

Pocket Hardmount  
Variable Speed  
V-Series Microcomputer

Models UW100VV and UW125VV  
For Designs 1-4

— Installation/Maintenance —

**NOTA:** El manual en español aparece después del manual en inglés.



**Keep These Instructions for Future Reference.**

(If this machine changes ownership, this manual must accompany machine.)

**Alliance**  
Laundry Systems

[www.comlaundry.com](http://www.comlaundry.com)

Part No. F232124R3  
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# Table of Contents

|  |    |
|--|----|
| <b>Safety</b> .....  | 3  |
| Key to Symbols.....  | 4  |
| Safety Decals .....  | 5  |
| Operator Safety.....   | 6  |
| Safe Operating Environment .....                                 | 6  |
| Environmental Conditions .....                                   | 6  |
| Machine Location .....   | 7  |
| Input and Output Services.....                                   | 7  |
| AC Inverter Drive .....  | 8  |
| Misuse.....  | 8  |
| <b>Installation</b> .....  | 9  |
| Model Identification .....                                       | 9  |
| Machine Overview.....  | 9  |
| Delivery Inspection.....   | 10 |
| Customer Service.....  | 10 |
| Machine Dimensions .....   | 14 |
| Dimensional Clearances.....                                      | 14 |
| Machine Foundation .....   | 16 |
| Mechanical Installation.....                                     | 17 |
| Mounting Bolt Installation.....                                  | 18 |
| Drain Connection.....  | 20 |
| Water Connection .....   | 21 |
| Electrical Installation .....                                    | 22 |
| Steam Requirements   |    |
| (Steam Heat Option Only).....                                    | 24 |
| Chemical Injection Supply System.....                            | 25 |
| Connecting External Liquid Supplies to the Washer-Extractor..... | 26 |
| <b>Maintenance</b> .....   | 29 |
| Daily .....  | 29 |
| Beginning of Day .....   | 29 |
| End of Day .....   | 30 |
| Weekly.....  | 30 |
| Monthly.....   | 30 |
| Quarterly .....  | 32 |
| Care of Stainless Steel .....                                    | 33 |
| Daily Preventive Maintenance Checklist.....                      | 34 |
| Weekly Preventive Maintenance Checklist.....                     | 35 |
| Monthly Preventive Maintenance Checklist.....                    | 36 |
| Quarterly Preventive Maintenance Checklist .....                 | 37 |
| <b>Removal from Service</b> .....                                | 39 |
| Decommissioning .....  | 39 |

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[illegible]


# Safety


**NOTE:** Anyone operating or servicing this machine must follow the safety rules in this manual. Particular attention must be paid to the **CAUTION**, **WARNING**, and **DANGER** blocks which appear throughout the manual.


The following warnings are general examples that apply to this machine. Warnings specific to a particular installation or maintenance procedure will appear in the manual with the discussion of that procedure.


|  |                |
|--|----------------|
|   | <b>CAUTION</b> |
| <p>Be careful around the open door, particularly when loading from a level below the door. Impact with door edges can cause personal injury.</p> |                |
| SW025  |                |

|  |                |
|--|----------------|
|   | <b>WARNING</b> |
| <p>Dangerous voltages are present in the electrical control box(es) and at the motor terminals. Only qualified personnel familiar with electrical test procedures, test equipment, and safety precautions should attempt adjustments and troubleshooting. Disconnect power from the machine before removing the control box cover, and before attempting any service procedures.</p> |                |
| SW005  |                |

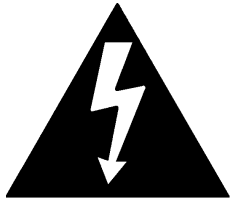
|  |               |
|--|---------------|
|   | <b>DANGER</b> |
| <p>Death or serious injury can result if children become trapped in the machine. Do not allow children to play on or around this machine. Do not leave children unattended while the machine door is open.</p> |               |
| SW001  |               |

|   |                |
|---|----------------|
|    | <b>WARNING</b> |
| <p>This machine must be installed, adjusted, and serviced by qualified electrical maintenance personnel familiar with the construction and operation of this type of machinery. They must also be familiar with the potential hazards involved. Failure to observe this warning may result in personal injury and/or equipment damage, and may void the warranty.</p> |                |
| SW004   |                |

|  |                |
|--|----------------|
|   | <b>CAUTION</b> |
| <p>Ensure that the machine is installed on a level floor of sufficient strength and that the recommended clearances for inspection and maintenance are provided. Never allow the inspection and maintenance space to be blocked.</p> |                |
| SW020  |                |

|  |                |
|--|----------------|
|   | <b>WARNING</b> |
| <p>Never touch internal or external steam pipes, connections, or components. These surfaces can be extremely hot and will cause severe burns. The steam must be turned off and the pipe, connections, and components allowed to cool before the pipe can be touched.</p> |                |
| SW014  |                |

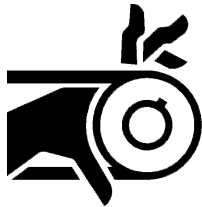
## Key to Symbols



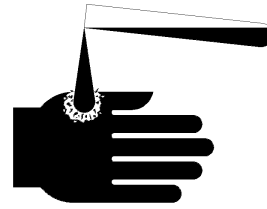
The lightning flash and arrowhead within the triangle is a warning sign indicating the presence of dangerous voltage.



The exclamation point within the triangle is a warning sign indicating important instructions concerning the machine and possibly dangerous conditions.



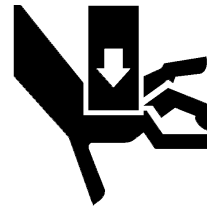
This warning symbol indicates the presence of potentially dangerous drive mechanisms within the machine. Guards should always be in place when the machine is in operation.



This warning symbol indicates the presence of possibly dangerous chemicals. Proper precautions should be taken when handling corrosive or caustic materials.



This warning symbol indicates the presence of hot surfaces that could cause serious burns. Stainless steel and steam lines can become extremely hot and should not be touched.



This warning symbol indicates the presence of possibly dangerous pinch-points. Moving mechanical parts can crush and/or sever body parts.

## **Safety Decals**

Safety decals appear at crucial locations on the machine. Failure to maintain legible safety decals could result in injury to the operator or service technician.

To provide personal safety and keep the machine in proper working order, follow all maintenance and safety procedures presented in this manual. If questions regarding safety arise, contact the factory immediately.

Use factory-authorized spare parts to avoid safety hazards.

## Operator Safety

|   |                |
|---|----------------|
|    | <b>WARNING</b> |
| <p><b>NEVER insert hands or objects into basket until it has completely stopped. Doing so could result in serious injury.</b></p> |                |
| SW012   |                |


To ensure the safety of machine operators, the following maintenance checks must be performed daily:

1. Prior to operating the machine, verify that all warning signs are present and legible. Missing or illegible signs must be replaced immediately. Make certain that spares are available.
2. Check door interlock before starting operation of the machine:
  - a. Attempt to start the machine with the door open. The machine should not start with the door open.
  - b. Close the door without locking it and attempt to start the machine. The machine should not start with the door unlocked.
  - c. Close and lock the door and start a cycle. Attempt to open the door while the cycle is in progress. The door should not open.

If the door lock and interlock are not functioning properly, call a service technician.

3. Do not attempt to operate the machine if any of the following conditions are present:
  - a. The door does not remain securely locked during the entire cycle.
  - b. Excessively high water level is evident.
  - c. Machine is not connected to a properly grounded circuit.

Do not bypass any safety devices in the machine.

|  |                |
|--|----------------|
|   | <b>WARNING</b> |
| <p><b>Never operate the machine with a bypassed or disconnected balance system. Operating the machine with severe out-of-balance loads could result in personal injury and serious equipment damage.</b></p> |                |
| SW039  |                |

## Safe Operating Environment

Safe operation requires an appropriate operating environment for both the operator and the machine. If questions regarding safety arise, contact the factory immediately.

### Environmental Conditions

- *Ambient Temperature.* Water in the machine will freeze at temperatures of 32°F or below.

Temperatures above 120°F (50°C) will result in more frequent motor overheating and, in some cases, malfunction or premature damage to solid state devices that are used in some models. Special cooling devices may be necessary.


Water pressure switches are affected by increases and decreases in temperature. Every 25°F (10°C) change in temperature will have a 1% effect on the water level.

- *Humidity.* Relative humidity above 90% may cause the machine's electronics or motors to malfunction or may trip the ground fault interrupter. Corrosion problems may occur on some metal components in the machine.

If the relative humidity is below 30%, belts and rubber hoses may eventually develop dry rot. This condition can result in hose leaks, which may cause safety hazards external to the machine in conjunction with adjacent electrical equipment.

- *Ventilation.* The need for make-up air openings for such laundry room accessories as dryers, ironers, water heaters, etc., must be evaluated periodically. Louvers, screens, or other separating devices may reduce the available air opening significantly.
- *Radio Frequency Emissions.* A filter is available for machines in installations where floor space is shared with equipment sensitive to radio frequency emissions.
- *Elevation.* If the machine is to be operated at elevations of over 3,280 ft. (1,000 m) above sea level, pay special attention to water levels and electronic settings (particularly temperature) or desired results may not be achieved.
- *Chemicals.* Keep stainless steel surfaces free of chemical residues.




|  |               |
|--|---------------|
|   | <b>DANGER</b> |
| <p><b>Do not place volatile or flammable fluids in any machine. Do not clean the machine with volatile or flammable fluids such as acetone, lacquer thinners, enamel reducers, carbon tetrachloride, gasoline, benzene, naphtha, etc. Doing so could result in serious personal injury and/or damage to the machine.</b></p> |               |
| SW002  |               |

- *Water Damage.* Do not spray the machine with water. Short circuiting and serious damage may result. Repair immediately all seepage due to worn or damaged gaskets, etc.

### Machine Location

- *Foundation.* The concrete floor must be of sufficient strength and thickness to handle the floor loads generated by the high extract speeds of the machine.
- *Service/Maintenance Space.* Provide sufficient space to allow comfortable performance of service procedures and routine preventive maintenance.

Consult installation instructions for specific details.


|  |                |
|--|----------------|
|   | <b>CAUTION</b> |
| <p><b>Replace all panels that are removed to perform service and maintenance procedures. Do not operate the machine with missing guards or with broken or missing parts. Do not bypass any safety devices.</b></p> |                |
| SW019  |                |

## Input and Output Services

- *Water Pressure.* Best performance will be realized if water is provided at a pressure of 30 – 85 psi (2.0 – 5.7 bar). Although the machine will function properly at lower pressure, increased fill times will occur. Water pressure higher than 100 psi (6.7 bar) may result in damage to machine plumbing. Component failure(s) and personal injury could result.
- *Steam Heat (Optional) Pressure.* Best performance will be realized if steam is provided at a pressure of 30 – 80 psi (2.0 – 5.4 bar). Steam pressure higher than 125 psi (8.5 bar) may result in damage to steam components and may cause personal injury.

For machines equipped with optional steam heat, install piping in accordance with approved commercial steam practices. Failure to install the supplied steam filter may void the warranty.

- *Drainage System.* Provide drain lines or troughs large enough to accommodate the total number of gallons that could be dumped if all machines on the site drained at the same time from the highest attainable level. If troughs are used, they should be covered to support light foot traffic.
- *Power.* For personal safety and for proper operation, the machine must be grounded in accordance with state and local codes. The ground connection must be to a proven earth ground, not to conduit or water pipes. Do not use fuses in place of the circuit breaker. An easy-access cutoff switch should also be provided.

|  |                |
|--|----------------|
|   | <b>WARNING</b> |
| <p><b>Ensure that a ground wire from a proven earth ground is connected to the ground lug near the input power block on this machine. Without proper grounding, personal injury from electric shock could occur and machine malfunctions may be evident.</b></p> |                |
| SW008  |                |

Always disconnect power and water supplies before a service technician performs any service procedure. Where applicable, steam and/or compressed air supplies should also be disconnected before service is performed.

## Safety

### AC Inverter Drive

Machines equipped with the AC inverter drive require special attention with regard to the operating environment.

- An especially dusty or linty environment will require more frequent cleaning of the AC inverter drive cooling fan filter and of the AC inverter drive itself.
- Power line fluctuations from sources such as uninterruptible power supplies (UPS) can adversely affect machines equipped with the AC inverter drive. Proper suppression devices should be utilized on the incoming power to the machine to avoid problems.
- A clean power supply free from voltage spikes and surges is absolutely essential for machines equipped with the AC inverter drive. Nonlinear inconsistencies (peaks and valleys) in the power supply can cause the AC inverter drive to generate nuisance errors.

If voltage is above 240 Volt for 200 Volt installation, ask the power company to correct. As an alternative, a step-down transformer kit is available from the distributor. If voltage is above 480 Volt for 400 Volt installations, a buckboost transformer is required.

- Sufficient space to perform service procedures and routine preventive maintenance is especially important for machines equipped with the AC inverter drive.

### Misuse

Never use this machine for any purpose other than washing fabric.

- Never wash petroleum-soaked rags in the machine. This could result in an explosion.
- Never wash machine parts or automotive parts in the machine. This could result in serious damage to the basket.
- Never allow children to play on or around this machine. Death or serious injury can result if children become trapped in the machine. Do not leave children unattended while the machine door is open. These cautions apply to animals as well.

# Installation

## Model Identification

Information in this manual is applicable to these models:

UW100VV\*  
UW125VV\*

\*This manual applies to models with U1, U2, U3 or U4 in the 9<sup>th</sup> and 10<sup>th</sup> positions in the model number (e.g., UW100VVXU40001). Refer to Model Number Familiarization Guide.

This manual is designed as a guide to the installation and maintenance of the UW100VV and UW125VV model rigid-mount washer-extractor equipped with the AC inverter drive.

**NOTE: All information, illustrations, and specifications contained in this manual are based on the latest product information available at the time of printing. We reserve the right to make changes at any time without notice.**

## Machine Overview

The UW100VV and UW125VV feature variable frequency drive control with five programmable speeds.

The design of the washer-extractor emphasizes performance reliability and long service life. The cylinder, shell, and main body panels are fabricated of stainless steel. The washer-extractor is mounted on a welded base frame which supports the bearings, cylinder, and shell.

Electrical controls for the washer-extractor are housed in a separate enclosure located on the top of the machine. Removing the screws from the module cover, lifting the cover, and pulling to the rear provides access to the control module. This module contains the V-microcomputer, contactors, water-level switch, and other control components.

The cylinder is driven by a V-drive system supported via the shaft by two flange-mounted spherical roller bearings bolted to the A-frame.

The cylinder is constructed with lifters or ribs that lift the laundry from the bath solution when the cylinder rotates at slow speed and then allow the laundry to tumble back into the bath. This mechanical action accomplishes the washing function. The cylinder is perforated, allowing the water to drain from within during the wash and extract steps.

The washer-extractor uses an AC inverter drive control which provides five preset motor speeds using a single motor. The AC drive interface board converts motor logic from the V-computer to the correct signals for the AC inverter drive. In addition, all logic inputs to the computer are routed through this board.

The operator can select from among 30 preprogrammed cycles. A special test cycle is provided to verify proper operation of the washer-extractor. Preprogrammed cycles are complete wash cycles or specialty cycles designed to handle various fabrics at specific water temperatures and levels.

The user has the ability to reprogram all 30 cycles as needed.

A balance switch installed between the faces of the A-frame prevents spinning at higher speeds when an out-of-balance load occurs.

Water enters the washer-extractor through electromechanical water valves controlled by the microcomputer. The microcomputer also controls the drain and the door lock. In addition, it selects the water levels according to the programmed cycle. A vacuum breaker is installed in the water-inlet plumbing to prevent backflow of water.

The standard production UW100VV and UW125VV use a single drain valve. The drain opens and closes under control of the V-computer. The drain valve is normally open, which means that it closes only when power is applied, thus allowing the machine to drain in the event of a power failure.

A door-lock system prevents opening of the stainless steel door when a cycle is in progress. It also prevents operation of the washer-extractor when the door is open. The doorbox contains the door-lock microswitch, door-closed magnetic switch, and the door-unlock solenoid.

The shaft seal assembly includes a brass collar held in place on the cylinder shaft with setscrews. The collar has a flange with a ceramic ring which makes contact with a spring-loaded phenolic face seal enclosed in a housing mounted on the rear of the shell. The collar contains two internal O-rings which maintain contact with the cylinder shaft.

## Installation

The supply dispenser is mounted on the right side of the washer-extractor, viewed from the front. On all machines, the polypropylene supply dispenser has five supply compartments, numbered 1 – 5, starting from the rear of the machine. The compartments hold plastic supply cups that are used for either liquid or dry supplies. A nozzle flushes supplies from the cups with water for the time programmed in the cycle.

Liquid supplies can be injected directly into the cups by a customer-supplied external chemical supply system. Five hose strain reliefs on top of the supply dispenser facilitate connection to an external supply system. A terminal strip inside a compartment attached to the left side of the control module, viewed from the rear of the washer-extractor, provides connection points for external supply signals.

A red emergency stop button is located on the upper right-hand corner of the control panel.

## Delivery Inspection

Upon delivery, visually inspect crate, protective cover, and unit for any visible shipping damage. If the crate, protective cover, or unit is damaged or signs of possible damage are evident, have the carrier note the condition on the shipping papers before the shipping receipt is signed, or advise the carrier of the condition as soon as it is discovered.

Remove the crate and protective cover as soon after delivery as possible. If any damage is discovered upon removal of the crate and/or protective cover, advise the carrier and file a written claim immediately.

## Customer Service

If literature or replacement parts are required, contact the source from whom the washer-extractor was purchased or contact Alliance Laundry Systems LLC at (920) 748-3950 for the name of the nearest authorized parts distributor.

For technical assistance call:

(920) 748-3121  
Ripon, Wisconsin  
[www.comlaundry.com](http://www.comlaundry.com)

A record of each washer-extractor is on file with the manufacturer. The serial number decal is located on the left side of the control module at the rear of the machine. *Figure 2* shows the location of the serial number on the decal. Always provide the machine's serial number and model number when ordering parts or when seeking technical assistance.

| Model Number Familiarization Guide         |  |
|--|--|
| Sample Model Number: <b>UW100VVXU40001</b> |  |
| <b>UW</b>                                  | Model Number Prefix                                      |
| <b>100</b>                                 | Washer-Extractor Capacity (pounds dry weight of laundry) |
| <b>V</b>                                   | Type of Electrical Control                               |
| <b>V</b>                                   | Washer-Extractor Speed Capabilities                      |
| <b>X</b>                                   | Electrical Characteristics                               |
| <b>4</b>                                   | Design Series  |
| <b>0001</b>                                | Option Identification (varies from machine to machine)   |

|  |  |  |
|--|--|--|
| Model No. <b>UW100VVXU40001</b><br>Serial No. <b>000000000000</b><br>Voltage <b>200 – 240</b> Amps <b>14</b><br>Circuit Breaker <b>20</b> Amps<br>Hz <b>50 – 60</b> Wire <b>2/3</b> Phase <b>1/3</b><br>Max. Load <b>60</b> LB <b>27</b> KG      Max. Speed <b>813</b> RPM<br>Elec. Heating <b>N/A</b> Steam Press. <b>N/A</b> PSI <b>0.0</b> BAR<br><b>Drawings:</b><br>ETL Listed<br>Conforms To ANSI/UL Std. 1206, 3rd Ed<br>Certified To CAN/CSA Std. C22.2 No.53-1968 |  |  |
| <b>EXAMPLE OF NAMEPLATE</b>  |  |  |

PHM627N

Figure 1

## Installation

| Model Number Familiarization Guide         |  |  |
|--|--|--|
| Sample Model Number: <b>UW100VVQU10001</b> |  |  |
| <b>UW</b>                                  | Model Number Prefix                                    |  |
| <b>100</b>                                 | Washer-Extractor Capacity (pounds dry weight)          |  |
| <b>V</b>                                   | Type of Electrical Control                             | V = V-Computer                           |
| <b>V</b>                                   | Washer-Extractor Speed Capabilities                    | V = 5 Speeds                             |
| <b>Q</b>                                   | Electrical Characteristics                             | Refer to <i>Table 6</i> in this section. |
| <b>U1</b>                                  | Design Series  |  |
| <b>0001</b>                                | Option Identification (varies from machine to machine) |  |

Model No. **UW100VVQU10001**  
Serial No. **000000000000**  
Voltage **200-240** Amps **19**  
Required Circuit Breaker Amps **30**  
Hz **50-60** Wire **3** Phase **3**  
Max. Load **100** LB **45** KG Max. Speed **524** RPM  
Elec. Heating KW Steam Press. PSI BAR

ETL LISTED  
CONFORMS TO  
ANSI/UL STD. 1555  
ANSI/UL STD. 1206

ETL TESTING LABORATORIES, INC.  
CORTLAND, NEW YORK 13045

Product No. **500000** Date Code

PHM193N

Figure 2

| <b>UW V-Computer, Variable Speed Pocket Hardmount General Specifications</b> |                                   |                                   |
|--|-----------------------------------|-----------------------------------|
|  | <b>100VV</b>                      | <b>125VV</b>                      |
| <i>Overall Dimensions</i>  |                                   |                                   |
| Overall width, in (mm)   | 41-1/2 (1054)                     | 48 (1219)                         |
| Overall height, in (mm)  | 68-1/2 (1740)                     | 72 (1829)                         |
| Overall depth, in (mm)   | 54-1/2 (1384)                     | 58 (1470)                         |
| <i>Weight and Shipping Information</i>                                       |                                   |                                   |
| Net weight, lb (kg)  | 1680 (762)                        | 2420 (1100)                       |
| Basket/Shaft Weight, lb (kg)   | 360 (163)                         | 550 (250)                         |
| Domestic shipping weight, lb (kg)  | 1745 (792)                        | 2525 (1148)                       |
| Domestic shipping volume, ft <sup>3</sup> (m <sup>3</sup> )                  | 119 (3.4)                         | 155 (4.3)                         |
| Domestic shipping dimensions, WxDxH, in (mm)                                 | 44x60-1/2x77-1/4 (1118x1537x1962) | 56x61-1/2x77-3/4 (1422x1562x1975) |
| Export shipping weight, lb (kg)  | 1940 (881)                        | 2800 (1273)                       |
| Export shipping volume, ft <sup>3</sup> (m <sup>3</sup> )                    | 134 (3.8)                         | 176 (4.9)                         |
| Export shipping dimensions, WxDxH, in (mm)                                   | 47x63-1/2x77-1/4 (1194x1613x1962) | 59x64-1/2x80 (1499x1638x2032)     |
| <i>Wash Cylinder Information</i>   |                                   |                                   |
| Cylinder diameter, in (mm)   | 36 (914)                          | 42 (1067)                         |
| Cylinder depth, in (mm)  | 27 (686)                          | 24 (609)                          |
| Cylinder volume, ft <sup>3</sup> (l)   | 15.9 (450)                        | 19.24 (541)                       |
| Perforation size, in (mm)  | 3/16 (4.8)                        | 3/16 (4.8)                        |
| Perforation open area, %   | 23                                | 24                                |
| <i>Door Opening Information</i>  |                                   |                                   |
| Door opening size, in (mm)   | 17-1/2 (445)                      | 20 (508)                          |
| Height of door bottom above floor, in (mm)                                   | 29 (737)                          | 29 (737)                          |
| <i>Water Consumption</i>   |                                   |                                   |
| Average water consumption per cycle, gal (l)                                 | HOT                               | 110 (416)                         |
|  | COLD                              | 51 (194)                          |
| Average hot water used per hour, gal (l)                                     |                                   | 123 (465)                         |
|  |                                   | 58 (220)                          |
|  |                                   | 142 (537)                         |
|  |                                   | 169 (640)                         |
| <i>Power Consumption</i>   |                                   |                                   |
| Average power used per cycle, kW/hr  | 0.40                              | 0.48                              |
| Max. nominal sound emission, dBA   | 77                                | 80                                |
| Average HVAC load, BTU/hr (kcal/hr)  | 1150 (290)                        | 1200 (303)                        |

| <b>UW V-Computer, Variable Speed Pocket Hardmount General Specifications (Continued)</b> |              |              |
|--|--------------|--------------|
|  | <b>100VV</b> | <b>125VV</b> |
| <i>Drive Train Information</i>   |              |              |
| Number of motors in drive train  | 1            | 1            |
| Drive motor power, hp (kW)   | 5.0 (3.7)    | 7.5 (5.6)    |
| <i>Cylinder Speeds / Centrifugal Force Data</i>  |              |              |
| Wash/reverse, rpm (g)  | 40 (.82)     | 37 (.82)     |
| Distribution, rpm (g)  | 66 (2.23)    | 62 (2.29)    |
| High extract 1, rpm (g)  | 280 (40)     | 380 (86)     |
| High extract 2, rpm (g)  | 408 (85)     | 485 (140)    |
| High extract 3, rpm (g)  | 523 (140)    | 0 (0)        |
| <i>Balance Detection</i>   |              |              |
| Vibration safety switch installed  | STD          | STD          |
| Safety switch gap setting, in (mm)   | 0.006 (0.15) | 0.006 (0.15) |
| <i>Direct Steam Heating (Optional)</i>   |              |              |
| Steam inlet connection size, in (mm)   | 1/2 (DN15)   | 3/4 (DN20)   |
| Number of steam inlets   | 1            | 1            |
| Steam required to raise bath temperature 10°F, lb (kg per 10°C)                          | LOW          | 5.71 (4.11)  |
|  | HIGH         | 7.57 (5.45)  |
| Average consumption per cycle, BHP (kg/hr)   | 3.85 (60.4)  | 4.6 (72.0)   |
| <i>Electrical Heating (Optional)</i>   |              |              |
| Total electrical heating capacity, kW  | 37.8         | 50.4         |
| Number of electrical heating elements  | 9            | 12           |
| Electrical heating element size, kW  | 4.2          | 4.2          |
| Time required to raise bath temperature 10°C, min  | LOW          | 2.8 (4.2)    |
|  | HIGH         | 3.7 (5.6)    |
|  |              | 2.5 (3.8)    |
|  |              | 3.4 (5.10)   |

## Machine Dimensions

### Dimensional Clearances

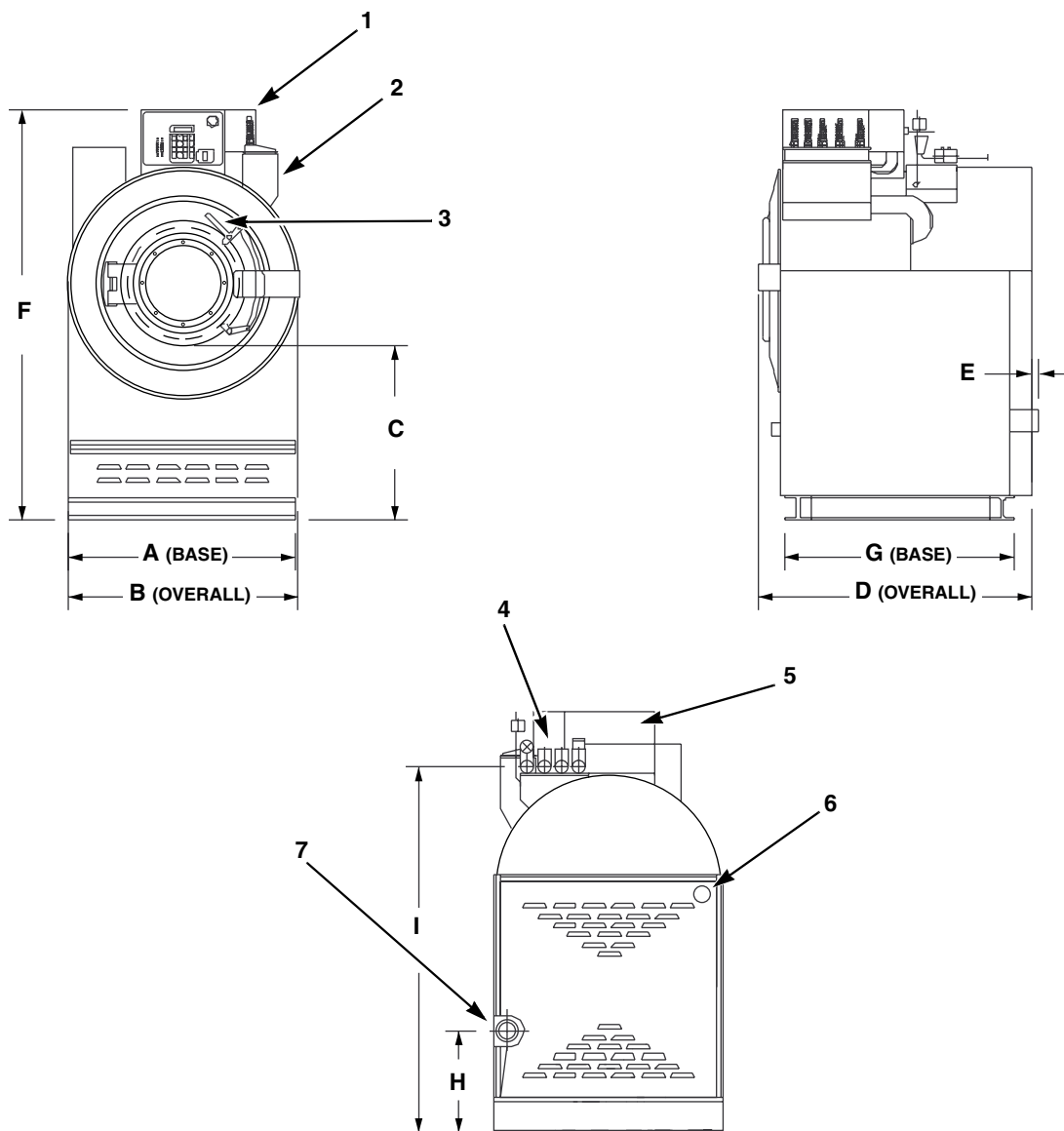
Allow a minimum of 24 in. (60 cm) at the rear and 12 in. (30 cm) (for standard machine or 1 in. with factory close mount option) at the sides for maintenance, inspection, and adjustment. Allow at least 18 in. (45 cm) between machines in multiple installations. Machine dimensions are indicated in *Figure 3* and specified in *Table 1*.

**NOTE: The dimensions shown here are for planning purposes only. They are approximate and subject to normal manufacturing tolerances. If exact dimensions are required for construction purposes, contact the distributor or the manufacturer. We reserve the right to make changes at any time without notice.**

| UW V-Computer, Variable Speed Pocket<br>Hardmount Machine Dimensions<br>(Refer to <i>Figure 3</i> .) |        |      |          |      |
|--|--------|------|----------|------|
|  | 100VV  |      | 125VV    |      |
| Dimensions   | in     | mm   | in       | mm   |
| <b>A</b>   | 41-1/8 | 1045 | 48       | 1219 |
| <b>B*</b>  | 41-1/2 | 1054 | 48       | 1219 |
| <b>C</b>   | 29     | 737  | 29       | 737  |
| <b>D</b>   | 54-1/2 | 1384 | 58       | 1473 |
| <b>E</b>   | 1      | 25   | 1-9/16   | 40   |
| <b>F</b>   | 68-1/2 | 1740 | 72       | 1829 |
| <b>G</b>   | 43-3/4 | 1111 | 48       | 1219 |
| <b>H</b>   | 16-7/8 | 429  | 11-19/32 | 295  |
| <b>I</b>   | 58-1/2 | 1486 | 63-19/32 | 1616 |
| *Optional starch dispenser increases overall width by<br>1/3 in. (7.62 mm).                          |        |      |          |      |

Table 1





- 1 Supply Valve Box
- 2 Supply Dispenser
- 3 Door Handle
- 4 Water Inlet Valve

- 5 Power Input Area (Inside)
- 6 Steam Connector (Optional)
- 7 Drain

PHM176N


Figure 3

## Machine Foundation

A proper foundation is absolutely necessary for the washer-extractor because of the high extract speed and the G-forces exerted.

**NOTE: Do not mount on wooden floors, above ground level, or over basements. Installation must be “slab on grade” or equal.**

Thoroughness of detail must be stressed with all foundation work to ensure a stable unit installation, eliminating possibilities of excessive vibration during extract.

|   |                  |
|---|------------------|
|    | <h3>CAUTION</h3> |
| <p><b>Ensure that the machine is installed on a level floor of sufficient strength and that the recommended clearances for inspection and maintenance are provided. Never allow the inspection and maintenance space to be blocked.</b></p> |                  |
| <small>SW020</small>  |                  |

The washer-extractor must be anchored to a smooth level surface so that the entire base of the machine is supported and rests on the mounting surface. (Do not support the washer-extractor on only four points.)

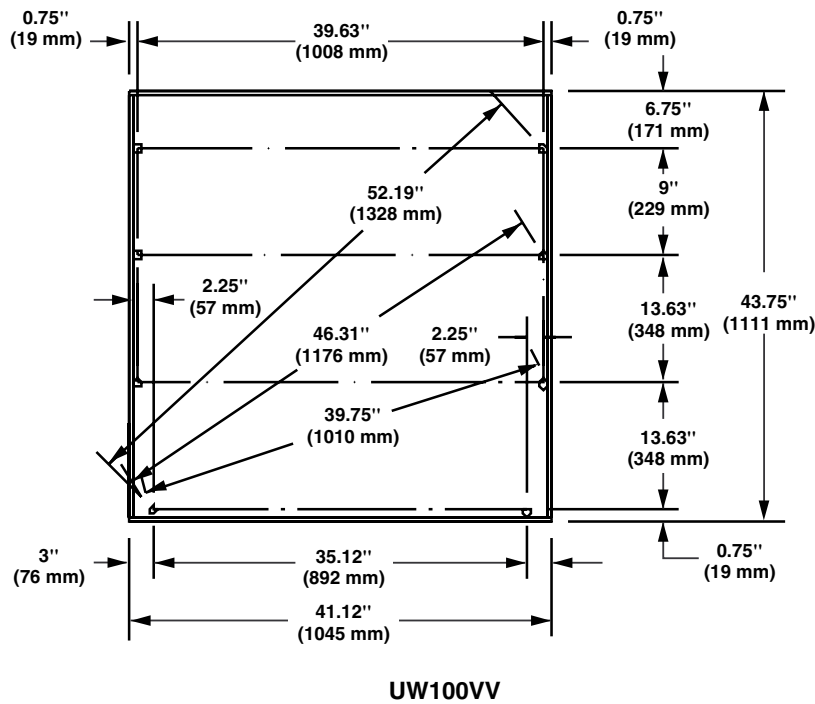
A concrete base designed to elevate the washer-extractor to a comfortable and more accessible height for loading and unloading laundry may be used. Care must be exercised in the design of such a base due to the force exerted by the machine during extract. This base must be adequately tied in to the existing floor.

Static and dynamic loads on the floor or foundation are shown in *Table 2*. This table can be used as a reference when designing floors and foundations.

| UW V-Computer, Variable Speed Pocket Hardmount Floor Load Data   |             |               |
|--|-------------|---------------|
|  | 100VV       | 125VV         |
| Static floor load, lbs (kN)  | 2652 (11.8) | 3461 (15.4)   |
| Static pressure, lbs/ft <sup>2</sup> (kN/m <sup>2</sup> )  | 212 (10.2)  | 216 (10.4)    |
| Dynamic floor load, lbs (kN)   | 2797 (12.5) | 3507 (15.6)   |
| Dynamic pressure, lbs/ft <sup>2</sup> (kN/m <sup>2</sup> )   | 224 (10.8)  | 219 (10.5)    |
| Dynamic load frequency, Hz   | 8.72        | 8.08          |
| <sup>1</sup> Maximum vertical load, lbs (kN)   | 4577 (20.4) | 6052 (26.9)   |
| <sup>2</sup> Minimum vertical load, lbs (kN)   | 1017 (4.5)  | 962 (4.3)     |
| Base Moment, lb-ft (kN-m)  | 9003 (11.3) | 11,679 (15.9) |
| <sup>1</sup> Acting in the downward direction against the floor.<br><sup>2</sup> Acting in the upward direction away from the floor. |             |               |

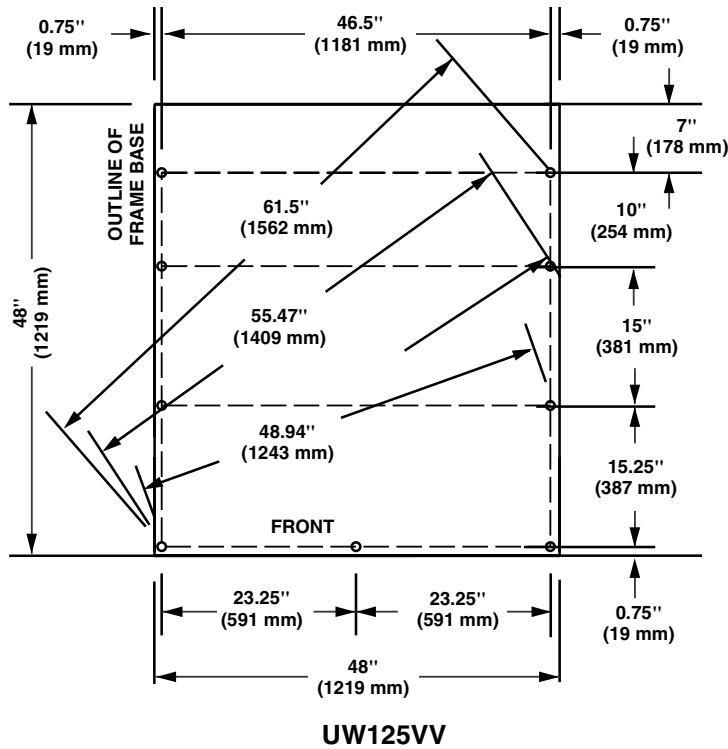
Table 2

Mechanical Installation



PHM191N

Figure 4



PHM177N

Figure 5

## Installation

### Mounting Bolt Installation

A bolt kit consisting of eight bolts is available as an option. The UW100VV and the UW125VV use 3/4-10 x 8 in. bolts. The bolts should be embedded in a 3500 psi minimum reinforced concrete floor that is a minimum of 12 in. thick. Use the mounting bolt layouts in *Figure 4* and *Figure 5*. (The front of the washer-extractor is the bottom of each diagram.)

The threaded end of the bolts should extend 2 in. above the surface of the floor.

Refer to *Figure 6* for a typical installation of individual mounting bolts.

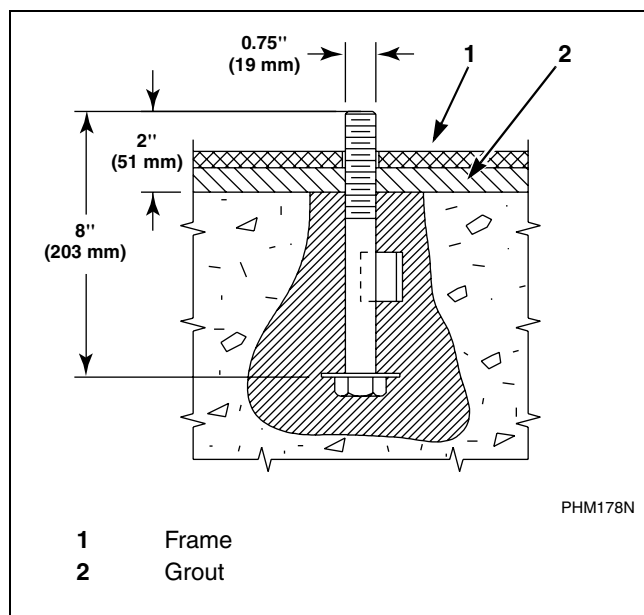


Figure 6

A bolt-locator fixture or rebar frame is available as an option. This rigid welded assembly made of reinforcing rod and mounting bolts is designed to be embedded in concrete. Refer to *Figure 7*.

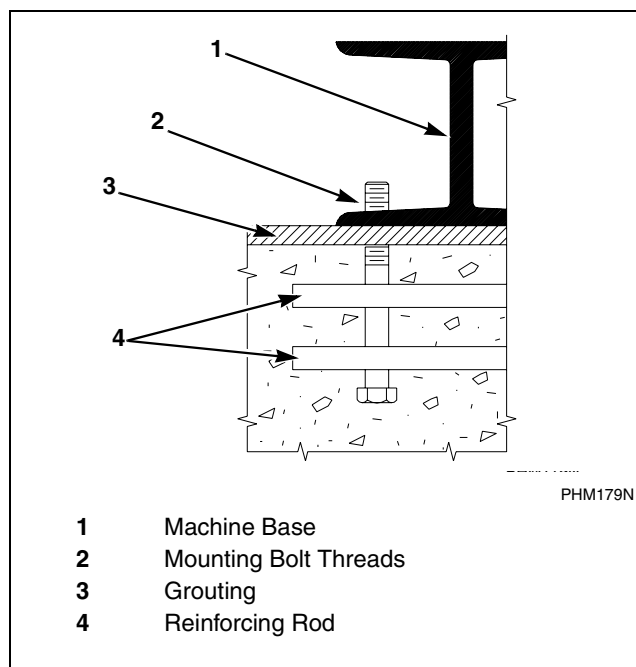


Figure 7

After the concrete has cured, proceed as follows:

1. Place the washer-extractor adjacent to the foundation. Do not attempt to move the machine by pushing on the sides. Always insert a pry bar or other device under the bottom frame of the machine to move it.
2. Remove the wood skid by unscrewing the carriage bolts holding the skid to the bottom frame of the washer-extractor.
3. Place the washer-extractor carefully over the anchor bolts. Never attempt to lift the machine by the door handle or by pushing on the cover panels.
4. Raise and level the washer-extractor 1/2 in. off the floor on three points, using spacers such as nut fasteners.
5. Fill the space between the washer-extractor base and the floor with a good quality non-shrinking machinery grout to ensure a stable installation. Grout completely under all frame members. (Remove front panel and expanded metal back panel to gain access to **all** frame members.) Refer to *Figure 8* and *Figure 9*. Force grout under machine base until all voids are filled.
6. Remove the spacers carefully, allowing the machine to settle into the wet grout.
7. Before grout sets completely, make a drain opening in the rear of the washer-extractor grouting with a stiff piece of wire; this opening should be approximately 1/2 in. (13 mm) wide to allow any surface water build-up under the base of the machine to drain away. **Do not omit this step.**
8. Position the mounting bolt washers and locknuts on the anchor bolts and fingertighten locknuts to machine base.
9. After the grout is completely dry, tighten the locknuts by even increments – one after the other – until all are tightened evenly and the washer-extractor is fastened securely to the floor.

**NOTE: Check and retighten the locknuts after five to ten days of operation and every month thereafter.**

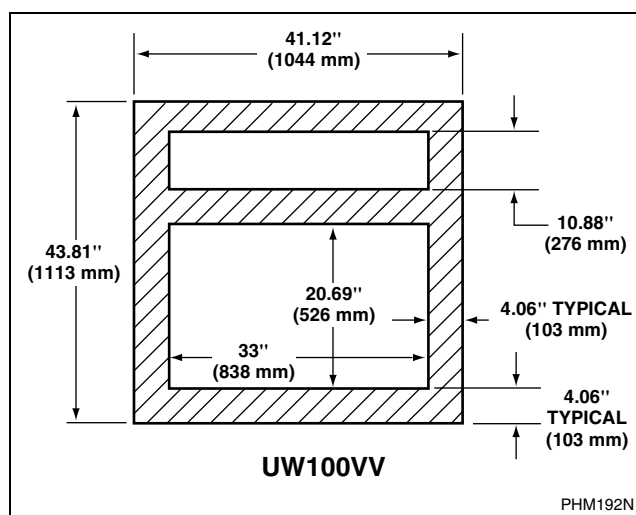


Figure 8

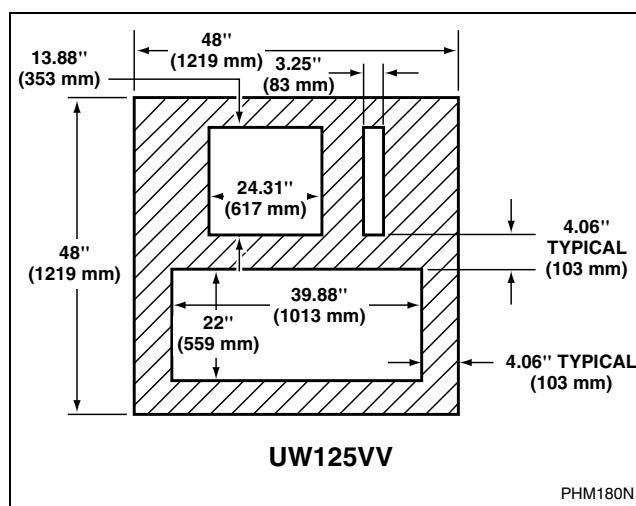


Figure 9

### Drain Connection

A drain system of adequate capacity is essential to washer-extractor performance. Ideally, the water should empty through a vented pipe directly into a sump or floor drain. *Figure 10* and *Figure 11* show drain line and drain trough configurations.

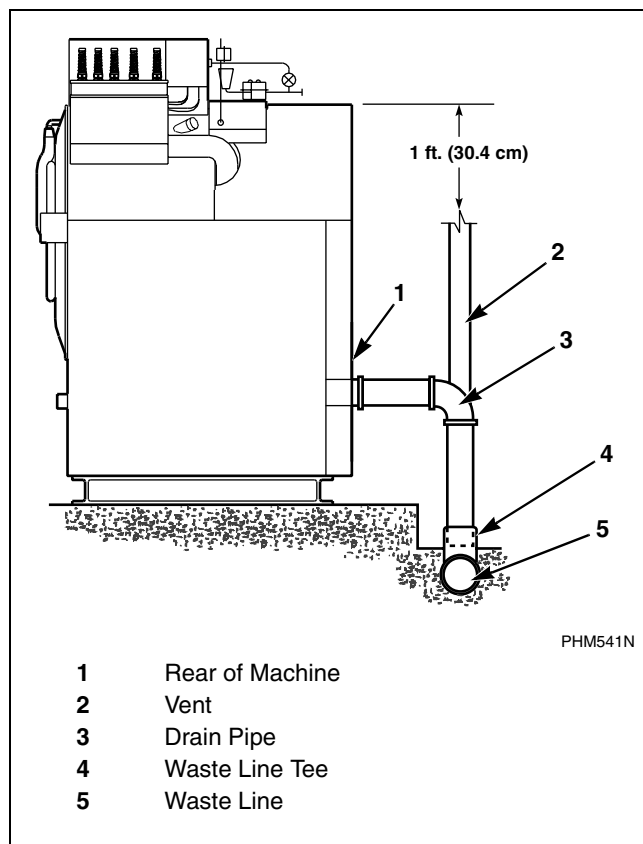


Figure 10

A flexible connection must be made to a vented drain system to prevent an air lock and to prevent siphoning.

**IMPORTANT: The top of the vent must be 1 foot (30.4 cm) lower than the bottom of the dispenser.**

If proper drain size is not available or practical, a surge tank is required. A surge tank in conjunction with a sump pump should be used when gravity drainage is not possible, such as in below-ground-level installations.

Before any deviation from specified installation procedures is attempted, the customer or installer should contact the distributor.

Increasing the drain hose length, installing elbows, or causing bends will decrease drain flow rate and increase drain times, impairing washer-extractor performance.

Refer to table in drain section for capacity-specific drain information.

Installation of additional washer-extractors will require proportionately larger drain connections. Refer to the Line Sizing table in the Installation/Maintenance Manual.

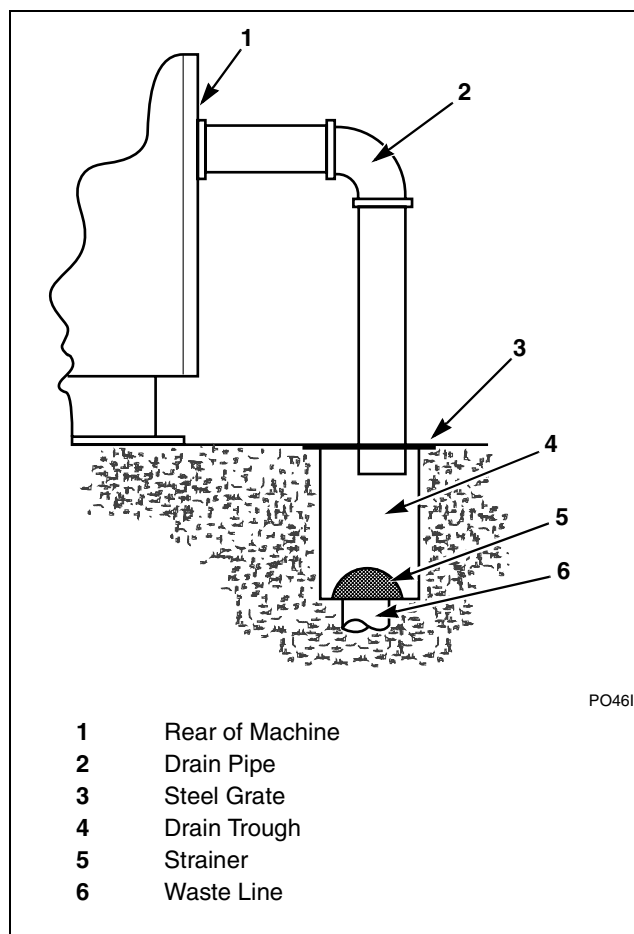


Figure 11

**IMPORTANT: Washer-extractor must be installed in accordance with all local codes and ordinances.**

**For UW125PV models only:**

**IMPORTANT: Do not block the overflow vent above the drain line.**

If water or suds flow from the overflow vent and the machine has been verified to be operating properly, a drain line may be added to the vent and routed to a drain trough.

**IMPORTANT: The drain trough must have a slotted (open) grate.**

1. Remove the riveted bracket on the rear panel for access to the overflow vent pipe.
2. Route a drain pipe from the vent pipe to a drain trough. Drain pipe should be routed straight across or down and be suspended above drain trough by at least 3 inches (76 mm).

**IMPORTANT: Do not route the overflow vent pipe to a direct drain system.**

Refer to *Table 3* for capacity-specific drain information.

Installation of additional washer-extractors will require proportionately larger drain connections. Refer to *Table 4*.

| <b>UW V-Computer, Variable Speed Pocket Hardmount Drain Information</b> |              |              |
|---|--------------|--------------|
|   | <b>100VV</b> | <b>125VV</b> |
| Drain connection size, I.D., in (mm)                                    | 3 (76)       | 3 (76)       |
| Number of drain outlets   | 1            | 1            |
| Drain flow capacity, gal/min (l/min)                                    | 120 (454)    | 70 (265)     |
| Recommended drain pit size, ft <sup>3</sup> (l)                         | 11 (311)     | 13 (366)     |

Table 3

| <b>UW V-Computer, Variable Speed Pocket Hardmount Drain Line Sizing Minimum Drain I.D.</b> |                |                |                |
|--|----------------|----------------|----------------|
| <b>Number of Machines</b>  |                |                |                |
| <b>1</b>   | <b>2</b>       | <b>3</b>       | <b>4</b>       |
| 4"<br>(102 mm)   | 4"<br>(102 mm) | 4"<br>(102 mm) | 6"<br>(152 mm) |

Table 4

**Water Connection**

| <b>UW V-Computer, Variable Speed Pocket Hardmount Water Supply Information</b> |                      |                      |
|--|----------------------|----------------------|
|  | <b>100VV</b>         | <b>125VV</b>         |
| Water inlet connection size, in (mm)   | 3/4 (9-3/4)          | 1 (DN25)             |
| Number of water inlets (standard)  | 2                    | 2                    |
| Recommended pressure psi (bar)   | 30 – 85<br>(2 – 5.7) | 30 – 85<br>(2 – 5.7) |
| Inlet flow capacity at 80 psi, gal/min (l/min)                                 | 25 (95)              | 50 (189)             |

Connections should be supplied by hot and cold water lines of at least the sizes shown in *Table 5*. Installation of additional machines will require proportionately larger water lines.

To connect water service to machine with rubber hoses, use the following procedure:

1. Before installing hoses, flush the water system for at least two minutes.
2. Check filters in the washer-extractor's inlet hoses for proper fit and cleanliness before connecting.
3. Hang the hoses in a large loop; do not allow them to kink.

If additional hose lengths are needed, use flexible hoses with screen filters. Each hose should have a screen filter installed to keep rust and other foreign particles out of the water inlet valves.

Pressure of 30 – 85 psi (2 – 5.7 bar) provides best performance. Although the washer-extractor will function properly at lower pressures, increased fill times will occur.

## Installation

Suitable air cushions should be installed in supply lines to prevent “hammering.” (Refer to *Figure 12*.) If the water pressure is above 60 psi, flexible copper tubing should be used in place of rubber hoses.

| UW V-Computer, Variable Speed Pocket Hardmount Water Supply Line Sizing |                    |                  |                |
|---|--------------------|------------------|----------------|
|   | Number of Machines | Supply Line Size |                |
|   |                    | Main             | Hot/Cold       |
| 100VV   | 1                  | 1" (25 mm)       | 3/4" (20 mm)   |
|   | 2                  | 1-1/2" (38 mm)   | 1" (25 mm)     |
|   | 3                  | 1-1/2" (38 mm)   | 1-1/4" (32 mm) |
|   | 4                  | 2" (50 mm)       | 1-1/2" (38 mm) |
| 125VV   | 1                  | 1-1/2" (38 mm)   | 1" (25 mm)     |
|   | 2                  | 2" (50 mm)       | 1-1/2" (38 mm) |
|   | 3                  | 2-1/2" (64 mm)   | 2" (50 mm)     |
|   | 4                  | 2-1/2" (64 mm)   | 2" (50 mm)     |

Table 5

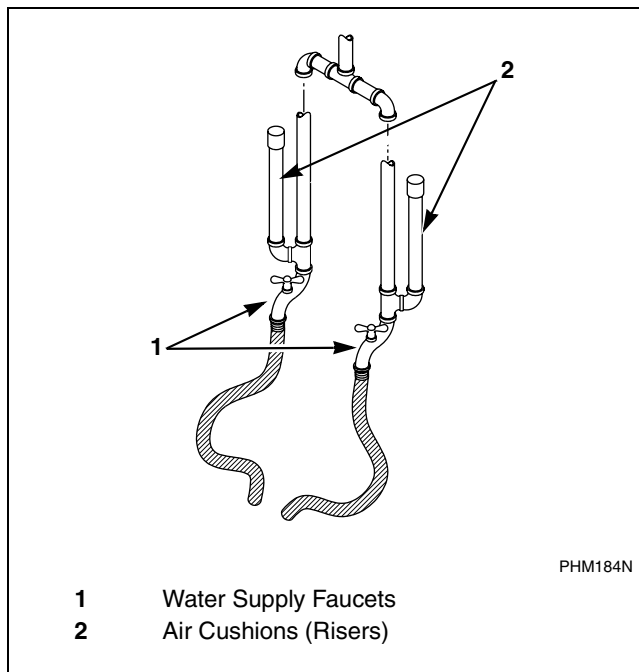


Figure 12

## Electrical Installation



### WARNING

**This machine must be installed, adjusted, and serviced by qualified electrical maintenance personnel familiar with the construction and operation of this type of machinery. They must also be familiar with the potential hazards involved. Failure to observe this warning may result in personal injury and/or equipment damage, and may void the warranty.**

SW004



### WARNING

**Dangerous voltages are present in the electrical control box(es) and at the motor terminals. Only qualified personnel familiar with electrical test procedures, test equipment, and safety precautions should attempt adjustments and troubleshooting. Disconnect power from the machine before removing the control box cover, and before attempting any service procedures.**

SW005



### WARNING

**Ensure that a ground wire from a proven earth ground is connected to the ground lug near the input power block on this machine. Without proper grounding, personal injury from electric shock could occur and machine malfunctions may be evident.**


SW008


Electrical connections are made at the rear of the control module. The machine must be connected to the proper electrical supply shown on the identification plate attached to the side of the control module.

The AC inverter drive requires a clean power supply free from voltage spikes and surges. A voltage monitor should be used to check incoming power. The customer's local power company may provide such a monitor.




If input voltage measures above 240 Volt for a 200 Volt drive or above 480 Volt for a 400 Volt drive, ask the power company to lower the voltage. As an alternative, a step-down transformer kit is available from the distributor. Voltages above 250 Volt and 490 Volt require additional measures. Contact the distributor or the manufacturer for assistance.

|   |                |
|---|----------------|
|    | <b>WARNING</b> |
| <p><b>Never touch terminals or components of the AC inverter drive unless power is disconnected and the “CHARGE” indicator LED is off. The AC inverter drive retains potentially deadly voltage for some time after the power is disconnected. There are no user-serviceable parts inside the AC inverter drive. Tampering with the drive will void the warranty.</b></p> |                |
| SW009   |                |

|  |               |
|--|---------------|
|   | <b>DANGER</b> |
| <p><b>When controlling the AC inverter drive with a parameter unit, the machine’s computer and its safety features are bypassed. This would allow the basket to rotate at high speeds with the door open. When using a parameter unit to control the AC inverter drive, a large sign should be placed on the front of the machine warning people of the imminent danger.</b></p> |               |
| SW003  |               |

The AC drive provides thermal overload protection for the drive motor. However, a separate three-phase circuit breaker must be installed for complete electrical overload protection. This prevents damage to the motor by disconnecting all legs if one should be lost accidentally. Check the data plate on the back of the washer-extractor or refer to *Table 6* for circuit breaker requirements.

**NOTE: Do NOT use fuses in place of a circuit breaker.**

|   |                |
|---|----------------|
|  | <b>CAUTION</b> |
| <p><b>Do not use a phase adder on any variable-speed machine.</b></p>               |                |
| SW037   |                |

The washer-extractor should be connected to an individual branch circuit not shared with lighting or other equipment.

The connection should be shielded in a liquid-tight or approved flexible conduit with proper conductors of correct size installed in accordance with the National Electric Code or other applicable codes. The connection must be made by a qualified electrician using the wiring diagram provided with the washer-extractor, or according to accepted European standards for CE-approved equipment.

Use wire sizes indicated in the Electrical Specifications chart for runs up to 50 ft. Use next larger size for runs of 50 to 100 ft. Use two sizes larger for runs greater than 100 ft.

For personal safety and for proper operation, the washer-extractor must be grounded in accordance with state and local codes. If such codes are not available, grounding must conform with the National Electric Code, article 250-95. The ground connection must be made to a proven earth ground, not to conduit or water pipes.

Do not connect the ground to the neutral (N-white wire) leg at the terminal strip. Refer to *Figure 13*.

If a delta supply system is used, the high leg may be connected to L1, L2, or L3 on the UW100VV and UW125VV model as all machines are equipped with control transformers.

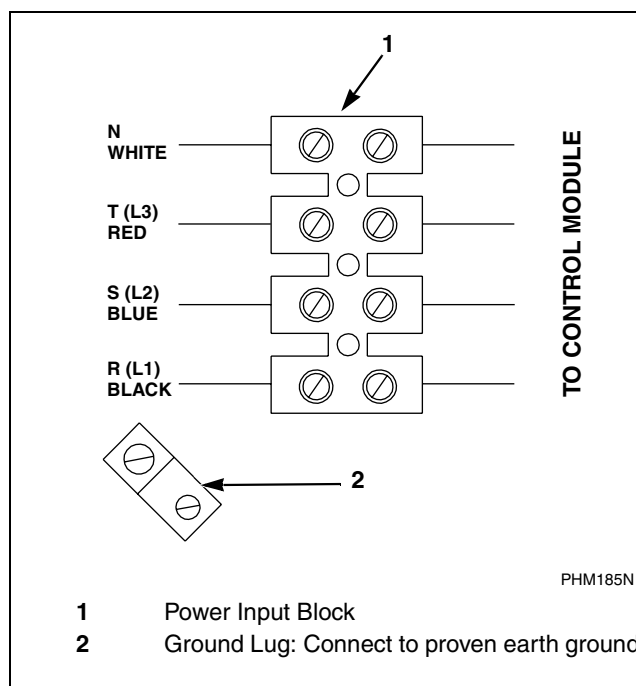



Figure 13

| UW V-Computer, Variable Speed Pocket Hardmount Electrical Specifications               |           |         |       |      |                |         |        |                 |                |         |        |                 |
|--|-----------|---------|-------|------|----------------|---------|--------|-----------------|----------------|---------|--------|-----------------|
| UW100VV  |           |         |       |      |                |         |        |                 |                |         |        |                 |
| Voltage Designation  |           |         |       |      | Standard       |         |        |                 | Electric Heat  |         |        |                 |
| Code   | Voltage   | Cycle   | Phase | Wire | Full Load Amps | Breaker | A.W.G. | mm <sup>2</sup> | Full Load Amps | Breaker | A.W.G. | mm <sup>2</sup> |
| N  | 440 – 480 | 50 – 60 | 3     | 3    | 11             | 20      | 12     | 3x4             | 66             | 80      | 3      | 3x35            |
| Q  | 200 – 240 | 50 – 60 | 3     | 3    | 19             | 30      | 10     | 3x6             | 99             | 110     | 1      | 3x50            |
| P  | 380 – 415 | 50 – 60 | 3     | 3    | 11             | 20      | 12     | 3x4             | 57             | 70      | 4      | 3x25            |
| UW125VV  |           |         |       |      |                |         |        |                 |                |         |        |                 |
| Voltage Designation  |           |         |       |      | Standard       |         |        |                 | Electric Heat  |         |        |                 |
| Code   | Voltage   | Cycle   | Phase | Wire | Full Load Amps | Breaker | A.W.G. | mm <sup>2</sup> | Full Load Amps | Breaker | A.W.G. | mm <sup>2</sup> |
| N  | 440 – 480 | 50 – 60 | 3     | 3    | 10             | 15      | 14     | 3x2.5           | N/A            | N/A     | N/A    | N/A             |
| Q  | 208 – 240 | 50 – 60 | 3     | 3    | 18             | 25      | 10     | 3x6             | N/A            | N/A     | N/A    | N/A             |
| P  | 380 – 415 | 50 – 60 | 3     | 3    | 10             | 15      | 14     | 3x2.5           | N/A            | N/A     | N/A    | N/A             |
| <b>NOTE: Wire sizes shown are for copper, THHN, 90° conductor per NEC article 310.</b> |           |         |       |      |                |         |        |                 |                |         |        |                 |

Table 6

## Steam Requirements (Steam Heat Option Only)

**NOTE: Failure to install the supplied steam filter may void the warranty.**



### WARNING

Never touch internal or external steam pipes, connections, or components. These surfaces can be extremely hot and will cause severe burns. The steam must be turned off and the pipe, connections, and components allowed to cool before the pipe can be touched.

SW014

For washer-extractors equipped with optional steam heat, install piping in accordance with approved commercial steam practices. Steam requirements are shown in *Table 7*.

| UW V-Computer, Variable Speed Pocket Hardmount Steam Supply Information |                        |                        |
|---|------------------------|------------------------|
|   | 100VV                  | 125VV                  |
| Steam inlet connection, in (mm)   | 1/2 (DN15)             | 3/4 (DN20)             |
| Number of steam inlets  | 1                      | 1                      |
| Recommended pressure, psi (bar)   | 30 – 80<br>(2.0 – 5.5) | 30 – 80<br>(2.0 – 5.5) |
| Maximum pressure, psi (bar)   | 80 (5.5)               | 80 (5.5)               |

Table 7

## Chemical Injection Supply System



### WARNING

**Wear eye and hand protection when handling chemicals; always avoid direct contact with raw chemicals. Read the manufacturer's directions for accidental contact before handling chemicals. Ensure an eye-rinse facility and an emergency shower are within easy reach. Check at regular intervals for chemical leaks.**

SW016

Undiluted chemical dripping can damage the washer-extractor. Therefore, all chemical supply dispenser pumps should be mounted below the washer-extractor's injection point. All dispenser tubing should also run below the injection point. Loops do not prevent drips if these instructions are not followed. Failure to follow these instructions could damage the machine and void the warranty. *Figure 14* shows a typical chemical injection supply system.

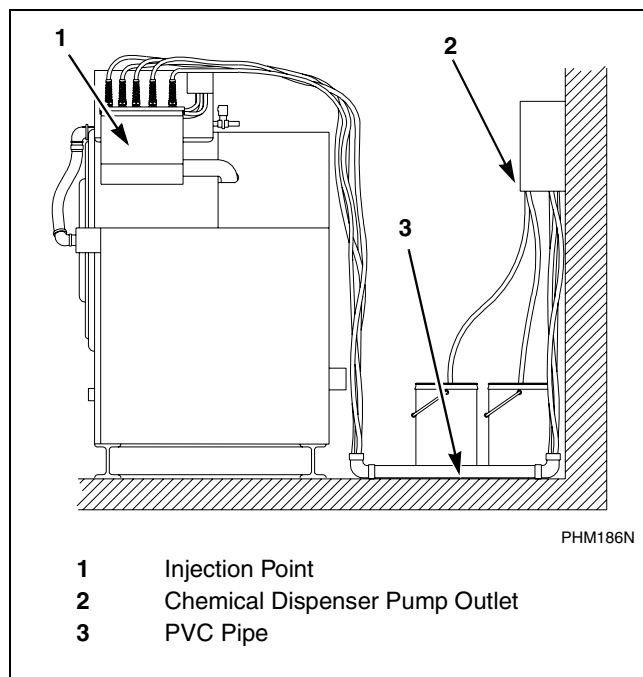


Figure 14

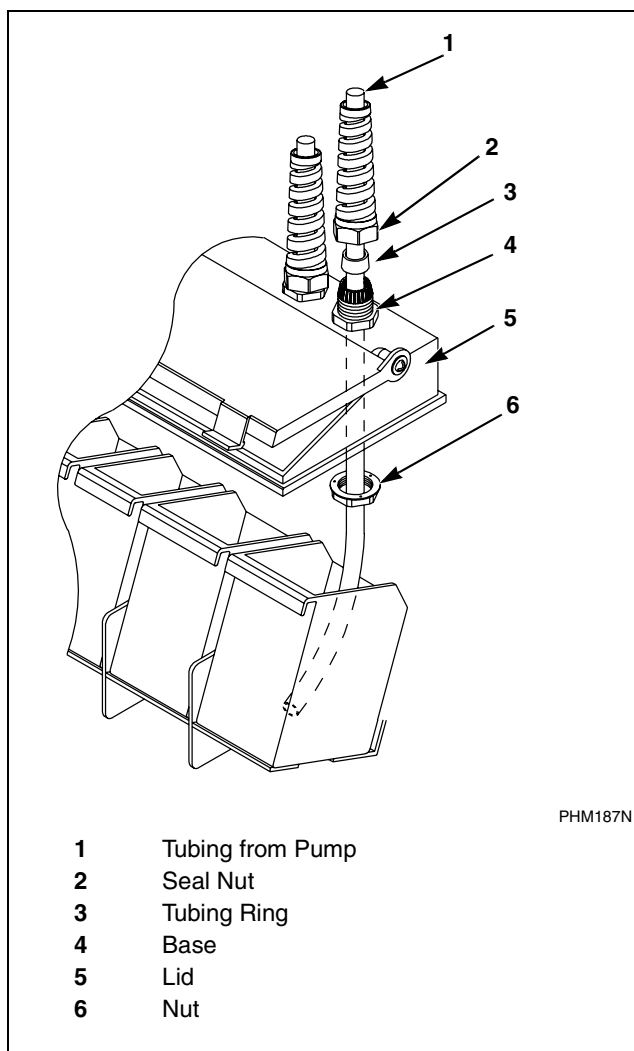


Figure 15

Installation

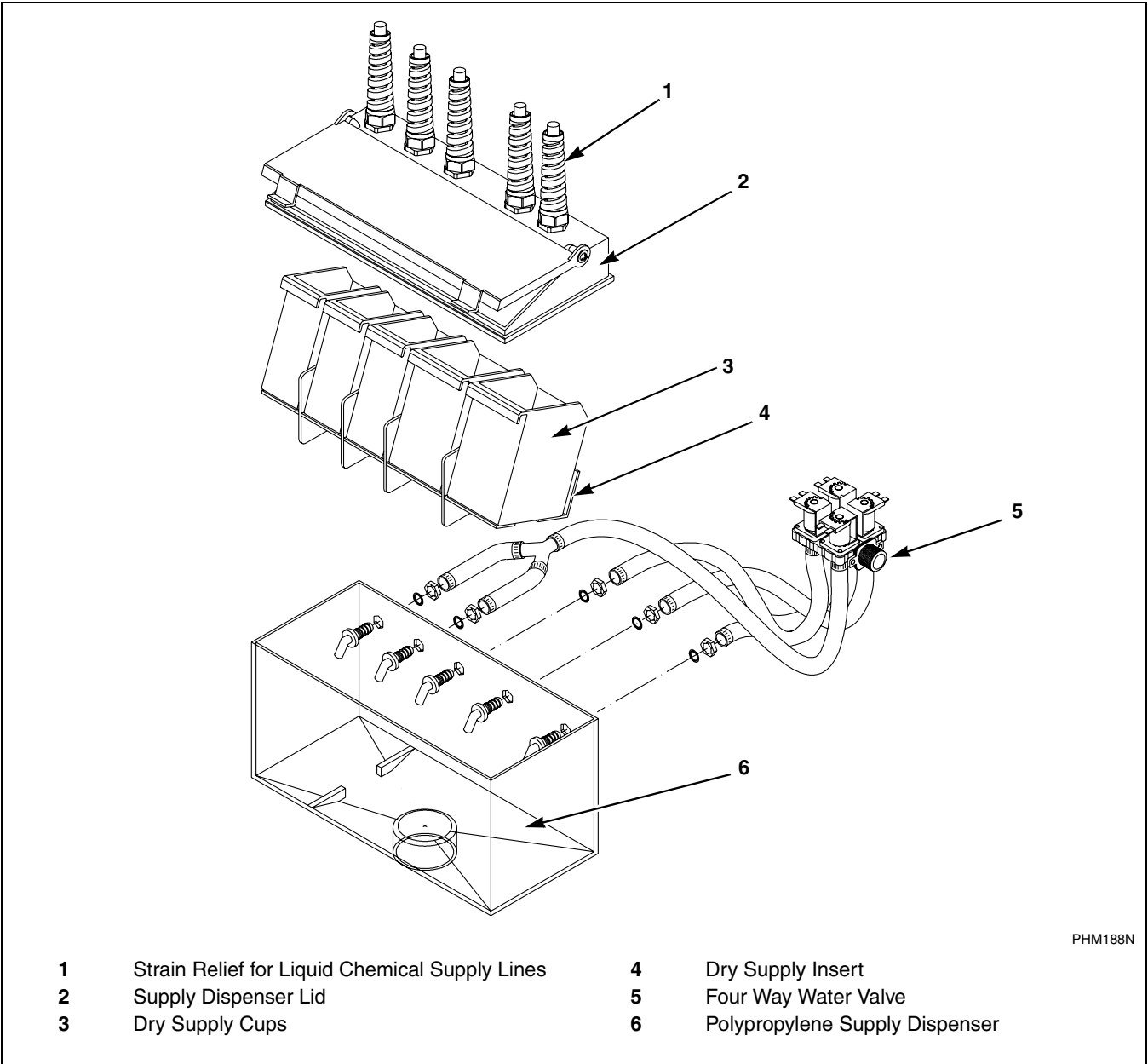
Connecting External Liquid Supplies to the Washer-Extractor

- 1. Remove plugs from base. Refer to *Figure 15*. Plugs are assembled inside the tubing ring.
- 2. Install strain reliefs, included in the seal nut.
- 3. Insert tubes through base. Do not remove cups. Tube should extend into the plastic cup, with the exception of the softener tube, which should be routed to the outside of the cup.
- 4. Tighten the seal nut to prevent tubing from escaping the assembly.

The UW100VV and UW125VV have a polypropylene supply dispenser. Refer to *Figure 16*.

Do not attempt to make chemical injection electrical connections to points other than those provided specifically for that purpose by the factory.

| Chemical Injection Supply System       |            |            |
|--|------------|------------|
|  | 100VV      | 125VV      |
| Number of dry supply compartments      | 5          | 1          |
| Number of liquid supply connections    | 5          | 5          |
| Liquid supply connection size, in (mm) | 5/8 (15.9) | 5/8 (15.9) |



PHM188N


Figure 16

A stainless steel box at the right rear of the control module houses a terminal strip which furnishes supply output signals for the chemical injection supply pumps. Refer to *Figure 17* for examples of applicable decals.

Terminals SUPPLY 1 through SUPPLY 5 provide 100 – 120VAC fused at 500mA. These terminals may be used to provide signals to the chemical injection system but must not be used to provide power to the pump. Do not attempt to increase fuse rating as this may cause damage to the washer-extractor's circuitry.

An external chemical injection system requiring 200 – 240VAC can be powered through LINE 1 and LINE 2 on the external supply terminal strip on UWVVP and UWVVQ models. Any chemical injection system used with UWVVN models must be powered by a separate external power source.

**Any injection system pump which requires 110VAC must be powered by a separate external power source.**

|  |                |
|--|----------------|
|   | <b>CAUTION</b> |
| <p><b>Attempting to obtain 110VAC by using L1 or L2 with the common may damage laundry machine circuitry and/or the chemical injection system. Using a 240VAC power wire in the washer-extractor and an earth ground to obtain 110VAC could cause microprocessor problems.</b></p> |                |
| SW028  |                |

Refer to *Chemical Injection Supply System* instructions for operational details.

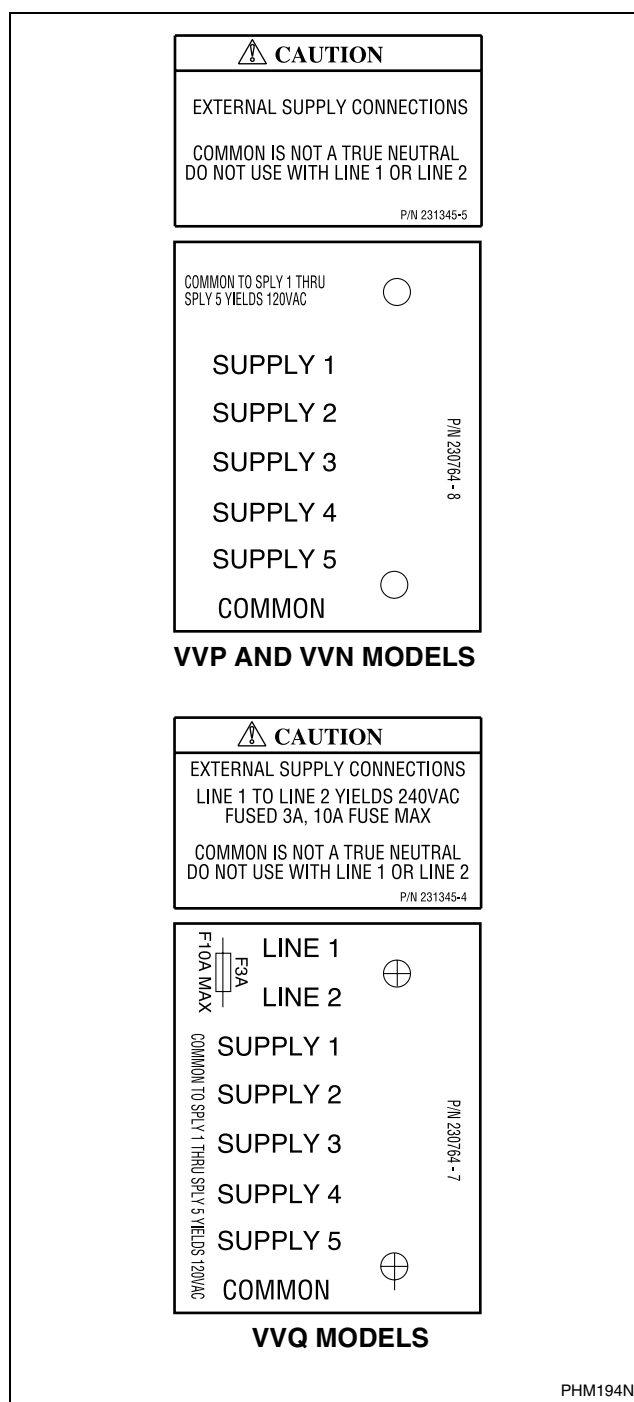




Figure 17

[illegible]

# Maintenance

Routine maintenance maximizes operating efficiency and minimizes downtime. The maintenance procedures described below will prolong the life of the machine and help prevent accidents.

|  |                |
|--|----------------|
|   | <b>WARNING</b> |
| <b>Be careful when handling sheet-metal parts. Sharp edges can cause personal injury. Wear safety glasses and gloves, use the proper tools, and provide adequate lighting.</b> |                |
| SW035  |                |

|   |                |
|---|----------------|
|    | <b>CAUTION</b> |
| <b>Replace all panels that are removed to perform service and maintenance procedures. Do not operate the machine with missing guards or with broken or missing parts. Do not bypass any safety devices.</b> |                |
| SW019   |                |

Daily, weekly, monthly, and quarterly checklists are provided at the end of this section. Laminate the checklists to preserve them for repeated copying. Operators and technicians are encouraged to add checks specific to their washer-extractor's particular application. Where possible, space is provided on the checklists for this purpose.

The following maintenance procedures must be performed regularly at the required intervals.

## Daily

### Beginning of Day

1. Inspect water inlet valve hose connections on the back of the washer-extractor for leaks.
2. Inspect steam hose connections for leaks (where applicable).
3. Verify that insulation is intact on all external wires and that all connections are secure. If bare wire is evident, call a service technician.
4. Check door interlock before starting operation:
  - a. Attempt to start the washer-extractor with the door open. The washer-extractor should not start with the door open.
  - b. Close the door without locking it and attempt to start the washer-extractor. The washer-extractor should not start with the door unlocked.
  - c. Close and lock the door and start a cycle. Attempt to open the door while the cycle is in progress. The door should not open.

If the door lock and interlock are not functioning properly, call a service technician.

## Maintenance

### End of Day

1. Clean the AC drive box filters:
  - a. Snap off the external plastic cover which contains the filter.
  - b. Remove the foam filter from the cover.
  - c. Wash the filter with warm water and allow to air dry. Filter can be vacuumed clean.
2. Clean the door gasket of residual detergent and all foreign matter.
3. Clean automatic supply dispenser and lid inside and out with mild detergent. Rinse with clean water.
4. Clean powder dispenser and lid with mild detergent. Rinse with clean water.
5. Clean washer-extractor's top, front, and side panels with mild detergent. Rinse with clean water.
6. Leave loading door open at the end of each day to allow moisture to evaporate.

**NOTE: Unload the washer-extractor promptly after each completed cycle to prevent moisture buildup. Leave loading door open at the end of each completed cycle to allow moisture to evaporate.**

### Weekly

1. Check the washer-extractor for leaks.
  - a. Start an unloaded cycle to fill the washer-extractor.
  - b. Verify that door and door gasket do not leak.
  - c. Verify that the drain valve is operating and that the drain system is free from obstruction. If water does not leak out during the prewash segment, drain valve is closed and functioning properly.

### Monthly

**NOTE: Disconnect power to the washer-extractor at its source before performing the monthly maintenance procedures.**

1. Each month OR after every 200 hours of operation, lubricate bearings. (Locate the bearing lubrication decal at the rear of the left side of the control module, as viewed from the front of the washer-extractor.)

The grease must have the following characteristics:

- NLGI Grade 2
- Lithium-based
- Water-insoluble
- Anti-rusting
- Anti-oxidizing
- Mechanically stable



The grease must have adequate base oil viscosity with one of the following ratings:

- ISO VG 150 (135–165 cSt at 40°C or 709–871 SUS at 100°F)
- ISO VG 220 (198–242 cSt at 40°C or 1047–1283 SUS at 100°F)
- An SAE 40 rating is also acceptable as long as the cSt or SUS values are within the specified ranges.

Pump the grease gun slowly, permitting only two strokes.

2. Clean the AC drive fins:
  - a. Remove the AC drive box cover.
  - b. Blow the fins clean using compressed air at a pressure of 60 – 90 psi or canned compressed air. Use care to avoid damaging cooling fan or other components.

**NOTE: No amount of visible foreign matter should be allowed to accumulate on the fins or the finger guard.**

3. Use the following procedures to determine if V-belts require replacement or adjustment. Call a qualified service technician in either case.
  - a. Check V-belts for uneven wear and frayed edges.
  - b. After disconnecting power to the washer-extractor and removing all panels necessary for access to the drive belt, use one of the following methods to verify that V-belts are properly tensioned:
    - **Tension Gauge.** Loosen motor mounting bolts and slide motor along motor plate to change belt span length. The belt tension should be between 45 and 55 lbs. ( $\pm 5$  lbs.). Set initial tension towards the high end of this range.

- **Deflection.** Refer to *Figure 18*. Loosen motor mounting bolts and slide motor along motor plate to change belt span length. Belt tension measurements should be taken as close to the center of the belt span as possible. For every inch of span length, the belt should deflect 1/64 in. (0.40 mm). Thus, a belt with span length of 50 in. should deflect 50/64 in. (19.84 mm). An initial (run-in) force of 7 lbs. should be used to set the belt tension. An operating (normal) force of 5 lbs. should be used after the washer-extractor has been operated for a few hours.

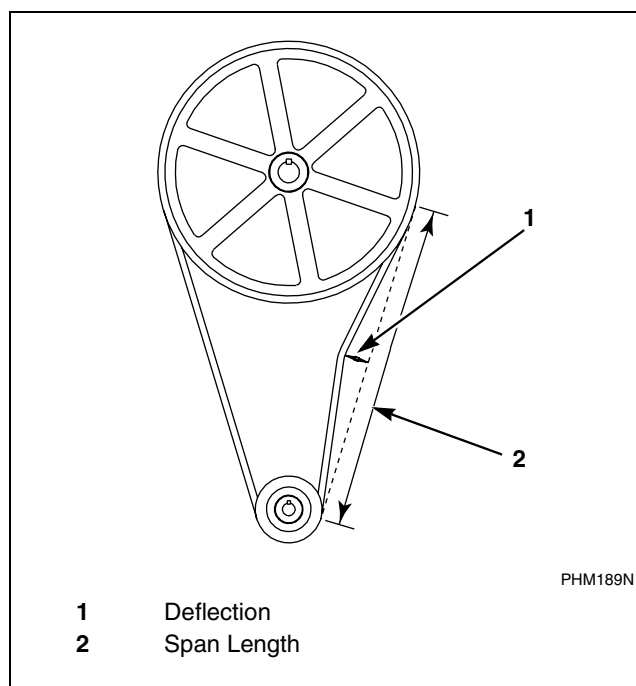


Figure 18

## Maintenance

- c. Verify that V-belts are properly aligned by checking pulley alignment. Place a straightedge across both pulley faces. The straightedge should make contact with the pulleys in four places. Refer to *Figure 19*.

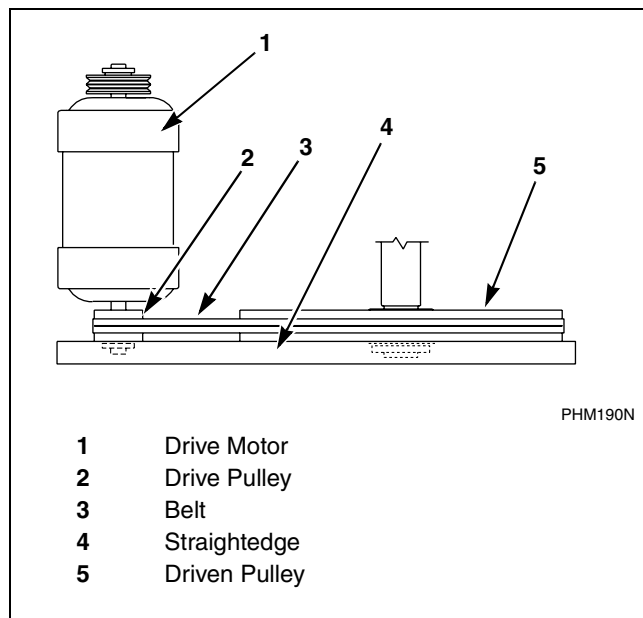


Figure 19

4. Remove back panel and check overflow hose and drain hose for leaks.
5. Unlock the hinged lid and check the supply dispenser hoses and hose connections.
6. Clean inlet hose filter screens:
  - a. Turn water off and allow valve to cool, if necessary.
  - b. Unscrew inlet hose and remove filter screen.
  - c. Clean with soapy water and reinstall. Replace if worn or damaged.
7. Tighten motor mounting bolt locknuts and bearing bolt locknuts, if necessary.
8. Use compressed air to clean lint from motor.
9. Clean interior of washer-extractor, both basket and shell, by wiping with a water-soaked sponge or cloth.
10. Use compressed air to ensure that all electrical components are free of moisture and dust.
11. Remove chemical supply components and check for residual chemicals. Clean as necessary and replace.

## Quarterly

**NOTE: Disconnect power to the washer-extractor before performing the quarterly maintenance procedures.**

1. Tighten door hinges and fasteners, if necessary.
2. Tighten anchor bolts, if necessary.
3. Verify that the drain motor shield is in place and secure.
4. Check all painted surfaces for bare metal. (Matching gray paint is available from the manufacturer.)
  - If bare metal is showing, paint with primer or solvent-based paint.
  - If rust appears, remove it with sandpaper or by chemical means. Then paint with primer or solvent-based paint.
5. Clean steam filter, where applicable.
  - a. Turn off steam supply and allow time for the valve to cool.
  - b. Unscrew nut.
  - c. Remove element and clean.
  - d. Replace element and nut.

## Care of Stainless Steel

Maintain the natural beauty of stainless steel and prolong its service life by following these tips:

- Ordinary deposits of dirt and grease can be removed with detergent and water. The metal should be thoroughly rinsed and dried after washing. Periodic cleaning will help to maintain the bright surface appearance and prevent corrosion.
- Contact with dissimilar metals should be avoided whenever possible. This will help prevent galvanic corrosion when salty or acidic solutions are present.
- Salty or acidic solutions should not be allowed to evaporate and dry on stainless steel. They may cause corrosion. Ensure that the stainless steel is wiped clean of acidic solution residues.
- Deposits that adhere to the stainless steel should be removed, especially from crevices and corners. When using abrasive cleaners, always rub in the direction of the polish lines or “grain” of the stainless steel to avoid scratch marks. Never use ordinary steel wool or steel brushes on the stainless steel. Use stainless steel wool or soft non-metal bristle brushes.
- If the stainless steel appears to be rusting, the source of the rust may actually be an iron or steel part not made of stainless steel, such as a nail or screw. One remedy is to paint all carbon steel parts with a heavy protective coating. Stainless steel fasteners should be used whenever possible.
- Discolorations or heat tint from overheating may be removed by scouring with a powder or by employing special chemical solutions.
- Sanitizers or sterilizing solutions should not be left in stainless steel equipment for prolonged periods of time. They often contain chlorine, which may cause corrosion. The stainless steel should be cleaned and rinsed thoroughly of any solution containing chlorine.
- When an external chemical supply system is used, make certain that no siphoning of chemicals occurs when the washer-extractor is not in use. Highly concentrated chemicals can cause severe damage to stainless steel and other components within the washer-extractor. Damage of this kind is not covered by the manufacturer’s warranty. Locate the pump below the washer-extractor’s injection point to prevent siphoning of chemicals into the washer-extractor. Refer to *Figure 14* in the **Installation** section.

## Daily Preventive Maintenance Checklist

|  |                |   |   |   |   |   |   |
|--|----------------|---|---|---|---|---|---|
| Machine _____  | Week Of: _____ |   |   |   |   |   |   |
| Operator _____   | Days           |   |   |   |   |   |   |
| Checks   | 1              | 2 | 3 | 4 | 5 | 6 | 7 |
| <b>Observe All Safety Warnings!</b><br><b>Disconnect power to the washer-extractor before performing the daily maintenance procedures.</b>   |                |   |   |   |   |   |   |
| <b>Beginning of Day</b>  |                |   |   |   |   |   |   |
| 1. Inspect water inlet valve hose connections on the back of the washer-extractor for leaks.   |                |   |   |   |   |   |   |
| 2. Inspect steam hose connections for leaks (where applicable).  |                |   |   |   |   |   |   |
| 3. Verify that insulation is intact on all external wires and that all connections are secure.   |                |   |   |   |   |   |   |
| 4. Check door lock and interlock before starting operation:  |                |   |   |   |   |   |   |
| a. Attempt to start the washer-extractor with door open.   |                |   |   |   |   |   |   |
| b. Close the door without locking it and attempt to start the washer-extractor.  |                |   |   |   |   |   |   |
| c. Close and lock the door, start a cycle, and attempt to open the door while the cycle is in progress.  |                |   |   |   |   |   |   |
| <b>End of Day</b>  |                |   |   |   |   |   |   |
| 1. Clean the AC drive box filters.   |                |   |   |   |   |   |   |
| 2. Clean the door gasket of all foreign matter.  |                |   |   |   |   |   |   |
| 3. Clean automatic supply dispenser and lid.   |                |   |   |   |   |   |   |
| 4. Clean the washer-extractor's top, front, and side panels.   |                |   |   |   |   |   |   |
| 5. Leave loading door open at the end of each day to allow moisture to evaporate.  |                |   |   |   |   |   |   |
| <b>NOTE: Unload the washer-extractor promptly <i>after each completed cycle</i> to prevent moisture buildup.</b><br><b>NOTE: Leave loading door open <i>after each completed cycle</i> to allow moisture to evaporate.</b> |                |   |   |   |   |   |   |

## Weekly Preventive Maintenance Checklist

|   |              |   |   |   |   |
|---|--------------|---|---|---|---|
| Machine _____   | Month _____  |   |   |   |   |
| Operator _____  | Week Ending: |   |   |   |   |
| Checks  | /            | / | / | / | / |
| <b>Observe All Safety Warnings!</b><br><b>Disconnect power to the washer-extractor before performing the weekly maintenance procedures.</b> |              |   |   |   |   |
| 1. Check the washer-extractor for leaks:  |              |   |   |   |   |
| a. Start an unloaded cycle to fill the washer-extractor.  |              |   |   |   |   |
| b. Verify that door and door gasket do not leak.  |              |   |   |   |   |
| c. Verify that the drain valve is operating.  |              |   |   |   |   |
| 2.  |              |   |   |   |   |
| 3.  |              |   |   |   |   |
| 4.  |              |   |   |   |   |
| 5.  |              |   |   |   |   |
| 6.  |              |   |   |   |   |
| 7.  |              |   |   |   |   |

## Monthly Preventive Maintenance Checklist

|  |       |  |  |  |
|--|-------|--|--|--|
| Machine _____  | Month |  |  |  |
| Operator _____   |       |  |  |  |
| Checks   |       |  |  |  |
| <b>Observe All Safety Warnings!</b><br><b>Disconnect power to the washer-extractor before performing the monthly maintenance procedures.</b> |       |  |  |  |
| 1. Each month OR after every 200 hours of operation, lubricate bearings.   |       |  |  |  |
| 2. Clean the AC drive fins.  |       |  |  |  |
| 3. Determine if V-belts require replacement or adjustment:   |       |  |  |  |
| a. Check V-belts for uneven wear and frayed edges.   |       |  |  |  |
| b. Verify that V-belts are properly tensioned.   |       |  |  |  |
| c. Verify that V-belts are properly aligned.   |       |  |  |  |
| 4. Remove back panel and check hoses for leaks.  |       |  |  |  |
| 5. Unlock the hinged lid and check supply dispenser hoses and connections.   |       |  |  |  |
| 6. Clean inlet hose filter screens. Replace if worn or damaged.  |       |  |  |  |
| 7. Tighten motor mounting bolt locknuts and bearing bolt locknuts, if necessary.   |       |  |  |  |
| 8. Use compressed air to clean lint from motor.  |       |  |  |  |
| 9. Clean interior of washer-extractor, both basket and shell, by wiping with a water-soaked sponge or cloth.                                 |       |  |  |  |
| 10. Use compressed air to clean moisture and dust from all electrical components.  |       |  |  |  |
| 11.  |       |  |  |  |
| 12.  |       |  |  |  |
| 13.  |       |  |  |  |
| 14.  |       |  |  |  |

## Quarterly Preventive Maintenance Checklist

|  |                |  |  |  |
|--|----------------|--|--|--|
| Machine _____  | <b>Quarter</b> |  |  |  |
| Operator _____   |                |  |  |  |
| <b>Checks</b>  |                |  |  |  |
| <b>Observe All Safety Warnings!</b><br><b>Disconnect power to the washer-extractor before performing the quarterly maintenance procedures.</b> |                |  |  |  |
| 1. Tighten door hinges and fasteners, if necessary.  |                |  |  |  |
| 2. Tighten anchor bolts, if necessary.   |                |  |  |  |
| 3. Verify that the drain motor shield is in place and secure.  |                |  |  |  |
| 4. Check all painted surfaces for bare metal. Repair, if necessary.  |                |  |  |  |
| 5. Clean steam filter, if applicable.  |                |  |  |  |
| 6.   |                |  |  |  |
| 7.   |                |  |  |  |
| 8.   |                |  |  |  |
| 9.   |                |  |  |  |
| 10.  |                |  |  |  |
| 11.  |                |  |  |  |

## Notes

[illegible]



# Removal from Service

## Decommissioning

In the event that the machine must be decommissioned, follow these steps:

1. Remove the chemical injection supply system, if applicable.
  - a. Have a qualified electrician disconnect power to the chemical injection supply system at its source.
  - b. Using the manufacturer's instructions, carefully remove the chemical injection supply system from the machine. Make certain that no chemical supplies come into contact with skin or clothing.
2. Clean interior of machine, both basket and shell.
  - a. Flush supply dispenser (soap dish) with water.
  - b. Run a short rinse cycle to clean detergent and chemical residues from the interior of the machine.
3. Disconnect electrical power.
  - a. Shut off main power supply at the breaker box or main control panel.
  - b. Do not attempt to disconnect power supply wires from power supply. Have a qualified electrician disconnect power to machine and reuse unit, if applicable, at its source.
4. Disconnect hoses.
  - a. Disconnect drain hose from sump, gutter, or drain.
  - b. Turn off water supply. Disconnect individual hot and cold water inlet hoses from the machine.
  - c. Allow time for residual water in the machine to drain. Then disconnect drain hose from the machine.
5. Disconnect steam hose, if applicable.
  - a. Turn off steam supply and allow time for the valve to cool.
  - b. Disconnect steam hose from machine.
6. Remove the washer-extractor from its foundation pad.
  - a. Keep all panels in place to provide stability when moving the machine.
  - b. Verify that door is closed and secure.
  - c. Loosen and remove anchor bolts holding machine base to floor.
  - d. Break the grout seal at each corner of the machine, using a crowbar.
  - e. Use crowbars at the front corners to lift the machine a few inches so that the forks of a forklift truck can reach under the machine.
  - f. Bolting the base frame to a pallet will facilitate removal to a transport vehicle.

